

Application No. 10/613,664  
Response to Office Action

Customer No. 01933

Amendments to the Claims:

7. (Amended) A scanning optical microscope which scans a sample with a laser beam from a laser source, said scanning optical microscope comprising:

5 a spectral resolving unit which resolves fluorescent rays from the sample into successive spectral components;

a wavelength splitter which splits the successive spectral components resolved by the spectral resolving unit into rays of a plurality of different wavelengths; and

10 a plurality of side-on type photomultipliers, respectively provided in optical paths of the rays of different wavelengths split by the wavelength splitter, for sensing the rays,

wherein axial centers of the plurality of side-on type photomultipliers come approximately within planes to be spectrally-resolved by the spectral resolving unit.

8. (Amended) A scanning optical microscope which scans a sample with a laser beam from a laser source, said scanning optical microscope comprising:

5 a spectral resolving unit which resolves spectra of fluorescent rays from the sample;

Application No. 10/613,664  
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a wavelength splitter which splits the fluorescent rays resolved by the spectral resolving unit into rays of a plurality of different wavelengths;

10 a plurality of side-on type photomultipliers, respectively provided in optical paths of the rays of different wavelengths split by the wavelength splitter, for sensing the rays, wherein axial centers of the plurality of side-on type photomultipliers come approximately within planes to be spectrally-resolved by the spectral resolving unit;

15 a plurality of image forming optical systems, respectively provided at fronts of the plurality of side-on type photomultipliers in each of the optical paths of the rays of different wavelengths split by the wavelength splitter, for forming images of the rays; and

20 a plurality of confocal apertures respectively provided at focal points of said plurality of image forming optical systems.

10. (Amended) A scanning optical microscope which scans a sample with a laser beam from a laser source, said scanning optical microscope comprising:

a spectral resolving unit which resolves spectra of fluorescent rays from the sample;

Application No. 10/613,664  
Response to Office Action

Customer No. 01933

a wavelength splitter which splits the fluorescent rays resolved by the spectral resolving unit into rays of a plurality of different wavelengths;

a plurality of side-on type photomultipliers, respectively provided in optical paths of the rays of different wavelengths split by the wavelength splitter, for sensing the rays, wherein axial centers of the plurality of side-on type photomultipliers come approximately within planes to be spectrally-resolved by the spectral resolving unit;

a beam splitter for splitting the fluorescent rays from the sample and the laser beam; and

a reducing optical system, provided between the beam splitter and said spectral resolving unit, for reducing the fluorescent rays.